

I) Please Amend the Specification as set forth below:

a) Please amend the first paragraph on Page 1, lines 2 to 8 as set forth below:

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This is a ~~Continued~~ Continuation-In-Part (CIP) Application of a previously filed co-pending Provisional Application with Serial Number 60/317,873 filed on September 7, 2001, and Provisional Application 60/317,873 is a Continuation-in-Part (CIP) Application of another co-pending Application 08/989,841 filed on December 12, 1997, now Pat. No.
10 6,216,246. The Application 08/989,841 is a Continuation-in-Part (CIP) Application of another Application No. 08/805,290 filed on Feb. 25, 1997, now Pat. No. 5,825,704, which is a Continuation-in-Part of Application No. 08/653,620 filed on May 24, 1996, now Pat. No. 5,748,547. Application
15 08/989,841 is also a Continuation-in-Part (CIP) of Application No. 08/653,620 filed on March May 24, 1996, now Pat. No. 5,748,547 by identical sole inventor as for this Application. This Application is also a Continuation-in-Part of Application No. 08/989,841. Application
20 08/989,841 is a Continuation-in-Part (CIP) of Application No. 08/805,290 filed on Feb. 25, 1997, now Pat. No. 5,825,704, which is a Continuation-in-Part of Application No. 08/653,620 filed on May 24, 1996, now Pat. No. 5,748,547. Application 08/989,841 is also a Continuation-in-Part (CIP) of Application No. 08/653,620 filed on May 24, 1996, now Pat. No. 5,748,547.

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b) Please amend the paragraph on Page 15 as set forth below for descriptions of elements 805 and 809 shown in Figs. 8(a) and 8(c):

However, for practical purposes of providing ECC protection in a
5 CAM lookup operation, it is realized that simultaneous ECC protection all
the rows in the CAM is not necessary. Instead, because only the matched
stream of data-bits is used of subsequent operations, it is only required to
protect the row that matches during a CAM lookup. FIG. 8(a) is a block
10 diagram for a CAM protected by ECC. This CAM device still has have the
same CAM array (801) for TAG lookup, miss lines (805) and the same
RAM array (803) to store data. The structure and memory cells used by
the TAG array (801) and the RAM array (803) are identical to those shown
in FIGs. 7(a-c). For each set of TAG data, its ECC bits calculated by ECC
15 circuits are also stored into a CAM array (807). This ECC CAM array (807)
can be separated from or merged with the TAG CAM array (801). FIG.
20 8(b) is a flow chart showing the look up procedures for the CAM in FIG.
8(a). During the look up, both TAG and its ECC bits are compared. If
there is no match, notification operation is carried out by the system as
usual. If there is a TAG match while its ECC bits also match, data
transmission of the matched data is carried out as usual. If there is a TAG
25 match while its ECC bits do not match, that means it is a false match. It is
required to notify the system about this false match and treat it as a
mismatch. An attempt to fix the problem may be carried out by writing
the correct value determined by ECC back into the CAM array. If there
are more than one TAG match found in the TAG array, the one with ECC
30 match is the real match. Only the correct data bit stream is transmitted,
while an operation to fix the wrong TAG is also performed with a
notification sent to the system about such a an data error and correction
events. The RAM array also can have its own ECC bits to protect RAM
data. Another example is to save ECC bits in a RAM array (809) instead of
the CAM array as shown in FIG. 8(c). The look-up procedures are shown
in FIG. 8(d). During a TAG look up, only TAG is compared. If there is no

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match, notification of no-matches found is carried out by the system as usual. If there is a TAG match, both data and ECC bits from the RAM array are read. This ECC bits can be just for the TAG. It is also possible to include both data and TAG into the ECC calculations to protect both.

5 After ECC calculation, if no errors are detected, transmission of the data and claim TAG hit is carried out by the system as usual. If errors are detected by ECC, it is necessary to notify the system about this false match and treat it as a mismatch. An attempt to fix the problem may be carried out by writing the correct value determined by ECC back into the CAM and RAM array. The example in FIG. 8(c) uses less resource than the example in FIG. 8(a). When there are multiple matches found in the TAG array, the structure in FIG. 8(c) can not distinguish which one is the right match.

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